DECLARATION

SITE NAME AND LOCATION

Site 18, Regional Volatile Organic Compound (VOC) Groundwater Plume – Operable Unit 1 (OU-1)

Site 24, VOC Source Area – Operable Unit 2A (OU-2A)

Former Marine Corps Air Station (MCAS) El Toro
Santa Ana, California 92709

National Superfund Database Identification Number: CA6170023208

STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) presents the selected remedial action for groundwater at Sites 18 and 24 at Former MCAS El Toro, located in Orange County, California.

This document was developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), 42 *United States Code* Section 9602 et seq., and in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 *Code of Federal Regulations* Part 300, et seq. This decision is based on the administrative record files for these sites. A site-specific administrative record index is included as Attachment A.

The state of California (through the California Environmental Protection Agency [Cal/EPA] Department of Toxic Substances Control [DTSC] and the Regional Water Quality Control Board Santa Ana Region [RWQCB]) and the United States Environmental Protection Agency (U.S. EPA) concur on the selected remedy.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from groundwater at Sites 18 and 24, if not addressed by implementing the remedial action selected in this ROD, may present a current or potential threat to public health and welfare or to the environment.

DESCRIPTION OF THE REMEDY

Site 24, VOC Source Area, comprises two media: soil and groundwater. In the past, VOC contamination migrated from the soil at Site 24 to the shallow groundwater unit and from the shallow groundwater unit to the principal aquifer at Site 18. This ROD presents the final remedy for groundwater at Sites 18 and 24. Contaminated soil at Site 24 was addressed previously in an interim ROD that documented selection of soil vapor extraction as the remedy for removal of the VOC contamination. The Site 24 ROD was considered interim because it addressed soil but did not address contaminated groundwater at Site 24. The remedy for soil has been implemented, and a closure report has been submitted to the Base Realignment and Closure (BRAC) Cleanup Team (BCT). A separate ROD or ROD amendment addressing soil at Site 24 will be issued at a later date.

Site 18, Regional VOC Groundwater Plume, comprises only groundwater. The selected remedy for groundwater at Sites 18 and 24 is extraction and treatment and institutional controls. Groundwater will be extracted from wells installed in the areas of highest reported trichloroethene (TCE) concentrations at Site 24. At Site 18, groundwater will be extracted from areas of the groundwater plume where TCE concentrations are equal to or greater than 5 micrograms per liter. This extraction procedure will help prevent migration of VOCs from Site 24 to Site 18, contain VOC migration at Site 18, and reduce concentrations of VOCs in groundwater at both sites to federal or state drinking water standards.

Groundwater extracted at both sites will be treated at the Irvine Desalter Project (IDP) facility to remove VOCs using air stripping. VOC vapors will be treated with activated carbon filters before the air is discharged to the atmosphere. When the activated carbon filters become saturated with VOCs, the filters will be returned to the manufacturer where they will be regenerated and the VOCs destroyed.

The IDP is a proposed water supply development project initiated by the Orange County Water District and the Irvine Ranch Water District (OCWD/IRWD). The goal of this project is to develop a local water supply, drawing from the principal aquifer, by 1) intercepting, containing, and treating groundwater with high concentrations of total dissolved solids (TDS) and nitrates; and 2) accepting and treating for VOC removal the groundwater that the Marine Corps must remediate. The IDP as developed by OCWD/IRWD is composed of two separate components—a nonpotable system and a potable system—designed to treat groundwater from two areas in the principal aquifer and from the shallow groundwater unit at Site 24.

- Nonpotable System – groundwater from Site 24 and areas inside the principal aquifer VOC plume (which is contaminated above drinking water standards) would be extracted, treated, and conveyed for use as recycled water. Only the VOC-related portion of the IDP that treats water from Site 24 and other areas within the principal aquifer VOC plume would be considered part of the Department of the Navy's (DON's) CERCLA remedy.
- Potable System – VOCs have not been reported in the potable well locations. Groundwater from areas outside the principal aquifer VOC plume would be extracted and treated to remove TDS and nitrates. Treated water would then be supplied for domestic purposes. This is not part of the DON's CERCLA remedy.

The selected remedy for groundwater includes:

- construction, operation, and maintenance of a groundwater extraction system to remove VOCs from groundwater;
- performance monitoring throughout the remedial action;
- treatment of VOC-contaminated groundwater using air stripping and treatment of VOC vapors with activated carbon filters to meet air quality standards before discharge to the atmosphere;

- confirmatory groundwater sampling at the end of the remediation to confirm that VOC concentrations meet federal and state cleanup levels; and
- institutional controls to prevent use of contaminated groundwater, protect equipment, and allow access to the DON, OCWD/IRWD, and regulatory personnel.

Groundwater extraction addresses the risk posed by VOC contamination (which can be characterized as the primary threat at these sites) by removing and permanently destroying the contaminants, thereby significantly reducing the toxicity, mobility, and volume of hazardous substances in groundwater.

Institutional controls for the on-Station portion of the groundwater plume are necessary to protect the integrity of the groundwater extraction, injection, and monitoring wells and associated piping and equipment. Institutional controls are also necessary to prevent use of contaminated groundwater and to allow the DON, OCWD/IRWD, and regulatory personnel access to install, operate, and maintain equipment and to monitor the remedial action. For land containing the on-Station portion of the groundwater plume, institutional controls would be implemented through two separate legal instruments: 1) one or more Environmental Restriction Covenant and Agreements with DTSC addressing on-Station real property containing the Site 24 Shallow Groundwater Plume and associated buffer zone and 2) one or more quitclaim deeds/leases between transferee(s)/lessee(s) and the DON conveying/leasing on-Station real property containing the Site 24 Shallow Groundwater Plume and associated buffer zone. The Environmental Restriction Covenant and Agreement(s) will incorporate the land-use restrictions into restrictive covenants that run with the land and that are enforceable by DTSC against future transferees. The quitclaim deed(s) will include the identical land-use restrictions in environmental restrictive covenants that run with the land and that will be enforceable by the DON against future transferees. In essence, the DON and DTSC will each have the legal authority to enforce the land-use restrictions and will share responsibility for their enforcement.

Institutional controls for the off-Station portion of the groundwater plume are necessary to protect residents from using contaminated groundwater in the principal aquifer and shallow groundwater unit for domestic purposes until cleanup goals are reached. Off-Station institutional controls are administered by Orange County Health Care Agency (OCHCA) and IRWD through the well permitting process. The DON is continuing to work with OCHCA and IRWD to assure that any conditions that are necessary to assure adequate protection of public health (e.g., treatment to comply with federal and state drinking water standards) shall be included in any permits that they issue for construction of wells intended to be used for domestic drinking water supply. The DON will also assist OCHCA and IRWD in this process by providing them annually with updated copies of figures delineating the off-Station groundwater plume.

STATUTORY DETERMINATIONS

The selected remedy is protective of human health and the environment, complies with federal and state requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. The remedy uses permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable and satisfies the statutory preference for remedies employing treatment that reduces toxicity, mobility, or volume as a principal element.

The effectiveness of the remedial action selected in this ROD will be reviewed at a minimum at 5-year intervals to assure that the remedy continues to adequately protect human health and the environment and is achieving cleanup goals. Once cleanup goals have been achieved, the 5-year review will no longer apply to this action because hazardous substances will not remain above health-based levels.

ROD DATA CERTIFICATION CHECKLIST

The following information is included in the Decision Summary:

- chemicals of concern and their respective concentrations (Section 5)
- baseline risk represented by the chemicals of concern (Section 7)
- cleanup levels established for chemicals of concern and the basis for these levels (Section 8)
- how source materials constituting principal threats are addressed (Section 8)
- current and reasonably anticipated future land-use assumptions and current and potential future beneficial uses of groundwater used in the baseline risk assessment and ROD (Sections 6 and 7)
- potential land and groundwater use that will be available at the sites as a result of the selected remedy (Section 10)
- estimated capital, annual operation and maintenance (O&M), and total present worth costs; discount rate; and the number of years over which the remedy cost estimates are projected (Section 10)
- key factors that led to selecting the remedy (Sections 8, 9, and 10)

Additional information can be found in the administrative record file for these sites.

Date: 06/18/02

Declaration

Signature: [signature] Date: 06/18/02
Mr. Dean Gould
Base Realignment and Closure Environmental Coordinator
Former Marine Corps Air Station El Toro

Signature: [signature] Date: 6/20/02
Mr. John E. Scandura, Chief
Southern California Operations
Office of Military Facilities
Department of Toxic Substances Control

Signature: [signature] FOR D. JORDAN Date: 6/25/02
Ms. Deborah Jordan, Chief
Federal Facilities Cleanup Branch
United States Environmental Protection Agency, Region 9

Signature: [signature] Date: 6/24/02
for Mr. Gerard J. Thibeault
Executive Officer
Regional Water Quality Control Board Santa Ana Region

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